# BULLETIN
## of the
# Chicago Herpetological Society

**Volume 53, Number 9**
**September 2018**

# BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
## Volume 53, Number 9
## September 2018



Miscellanea Herpetologica Gabonica XIV . . . . . Olivier S. G. Pauwels, Laila Bahaa-el-din, Jean-Louis Albert, Piero Carlino, Francesco Giannuzzi, Laurent Chirio, Jean-François Gillet, Eddy Poirier and Tariq Stévart 185

Notes on Reproduction of Little Mexican Toads, *Anaxyrus kelloggi* (Anura: Bufonidae), from Sinaloa, Mexico . . .Stephen R. Goldberg 191

The Banana Industry: A Zoological Goldmine . . . . . .R. Michael Burger 192

A Tiny Snake and a Lotta Bull . . . . . Roger A. Repp 195

What You Missed at the August Meeting: Frank Ziegler . . . . . .John Archer 199

Herpetology 2018 . . . . . 202

Minutes of the CHS Board Meeting, August 17, 2018 . . . . . 203

News and Announcements: Midwest Herpetological Symposium . . . . . 203

Advertisements . . . . . 204

New CHS Members This Month . . . . . 204


**Cover:** Smith's black-headed snake, *Tantilla hobartsmithi*, Pinal County, Arizona. Photograph by: R. C. Clark, Dancing Snake Nature Photography.


**STAFF**

Editor: Michael A. Dloogatch—mdloogatch@chicagoherp.org
Copy editor: Joan Moore

**2017 CHS Board of Directors**

President: Rich Crowley
Vice-president: Jessica Wadleigh
Treasurer: John Archer
Recording Secretary: Gail Oomens
Media Secretary: Kim Klisiak
Membership Secretary: Mike Dloogatch
Sergeant-at-arms: Mike Scott
Members-at-large: Dan Bavirsha
Lawrence Huddleston
Tom Mikosz
Zac Oomens


**The Chicago Herpetological Society** is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 7:30 P.M., the last Wednesday of each month.

**Membership** in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, $25.00; Family Membership, $28.00; Sustaining Membership, $50.00; Contributing Membership, $100.00; Institutional Membership, $38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add $12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago, IL 60614.

**Manuscripts** published in the *Bulletin of the Chicago Herpetological Society* are not peer reviewed. Manuscripts and letters concerning editorial business should be e-mailed to the editor, mdloogatch@chicagoherp.org. Alternatively, they may be mailed to: Chicago Herpetological Society, Publications Secretary, 2430 N. Cannon Drive, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for $2.50 per issue postpaid.

**Visit the CHS home page at <http://www.chicagoherp.org>.**


**The *Bulletin of the Chicago Herpetological Society*** (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.



Copyright © 2018

*Bulletin of the Chicago Herpetological Society 53(9):185-190, 2018*

# Miscellanea Herpetologica Gabonica XIV

**Olivier S. G. Pauwels [1], Laila Bahaa-el-din [2], Jean-Louis Albert [3], Piero Carlino [4], Francesco Giannuzzi [4], Laurent Chirio [5], Jean-François Gillet [6], Eddy Poirier [7] and Tariq Stévart [8]**

## Abstract

We present new Gabonese locality records, ecological and morphological data or unpublished material for *Kinixys erosa* (Testudinidae), *Osteolaemus tetraspis* (Crocodylidae), *Agama agama* and *A. lebretoni* (Agamidae), *Rhampholeon spectrum*, *Trioceros cristatus* and *T. owenii* (Chamaeleonidae), *Hemidactylus mabouia* (Gekkonidae), *Holaspis guentheri* (Lacertidae), *Trachylepis albilabris* (Scincidae), *Dipsadoboa viridis*, *Grayia caesar* and *G. ornata,* and *Rhamnophis aethiopissa aethiopissa* (Colubridae), *Boaedon olivaceus*, *Chamaelycus fasciatus* (Lamprophiidae) and *Bitis arietans* (Viperidae). Two reptile species are newly recorded for Estuaire Province. One snake is added to the list for Ivindo National Park. We reject a first record of *Trachylepis makolowodei* from Gabon. We document a case of predation by *Rhamnophis aethiopissa aethiopissa* on *Leptopelis aubryi* (Anura: Arthroleptidae).

## Keywords

Biodiversity, herpetofauna, Crocodylia, Squamata, Testudines, treefrog, protected areas, Gabon, Equatorial Africa.

## Introduction

The series *Miscellanea Herpetologica Gabonica* was initiated in 2008 (Pauwels and David, 2008) to fill knowledge gaps on the reptiles of Gabon, following the synthesis published by Pauwels and Vande weghe (2008). After a volume XIII fully dedicated to long-preserved material in Belgian museums (Pauwels, Oger et al., 2018), the present volume focuses mainly on more recent material and field observations. LB's herpetological observation was made while setting up camera traps to record servals (*Leptailurus serval*) in a logging concession under the management of Precious Woods Gabon - *Compagnie Equatoriale des Bois* (CEB). New data by TS were gathered during field surveys of orchids for the impact study of the Kinguélé 2 dam. New data by EP were collected during an entomological survey in the frame of an environmental baseline study for a hydroelectric dam project at Ngoulmendjim in the *Monts de Cristal* [Crystal Mountains].

## Material and Methods

New photographic and voucher material was identified using the keys and morphological information provided by Pauwels and Vande weghe (2008). New voucher specimens were injected with 90% ethanol then preserved in 70% ethanol. Snake ventral scales were counted according to the method of Dowling (1951). Snake dorsal scale rows were counted at one head length behind head, at midbody (above the ventral corresponding to half of the total number of ventrals), and at one head length before vent; subcaudal counts exclude the terminal pointed scale. Paired meristic characters are given left/right. Abbreviations: Morphology: A = anal plate; AT = anterior temporals; DSR = number of dorsal scale rows; DTR = dorsal tubercle rows at midbody, counted between the ventrolateral skin folds; IL = number of infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; K = keeled; Lor = number of loreal scales; M = male; MSR = number of scale rows at midbody; PoO = number of postoculars; PreO = number of preoculars; PV = number of preventrals; SC = number of subcaudals; SL = supralabials, followed in brackets by the SL in contact with orbit; SubO = subocular; SVL = snout-vent length; TaL = tail length; U = unkeeled; VEN = number of ventral scales. Varia: Dept = Department; MSNS = Museo di Storia naturale del Salento, Calimera, Italy; NP = National Park; Prov. = Province; RBINS = Royal Belgian Institute of Natural Sciences, Brussels, Belgium; RMCA = Royal Museum for Central Africa, Tervuren, Belgium.

## Results

Testudines

Testudinidae

*Kinixys erosa* (Schweigger, 1812)

The whole carapace of an adult individual was found on 3 February 2018 by JFG along a secondary logging road (0°49'07.6"S,

1. Département des Vertébrés Récents, Institut Royal des Sciences naturelles de Belgique, Rue Vautier 29, B-1000 Brussels, Belgium. osgpauwels@yahoo.fr; corresponding author
2. School of Life Sciences, University of KwaZulu-Natal, Durban 4000, South Africa. lailab.sp@gmail.com
3. BP 5423, Libreville, Gabon. jlalbert@mac.com
4. Museo di Storia naturale del Salento, Sp. Calimera-Borgagne km 1, 73021 Calimera, Italy. piero.carlino@msns.it
5. 14 rue des roses, 06130 Grasse, France. lchirio@hotmail.com
6. TERRA Teaching and Research Center, CARE "Forest is life," Gembloux Agro-Bio Tech, University of Liège, B-5030 Gembloux, Belgium. jf.gillet@alumni.uliege.be
7. 484 chemin Hilaire, 97300 Cayenne, Guyane. eddypoirier@yahoo.fr
8. Missouri Botanical Garden, Africa & Madagascar Department, PO Box 299, St. Louis, MO 63166-0299, USA.

**Figure 1**. Carapace of an adult *Kinixys erosa* in Mouloundou Department, Ogooué-Lolo Province, eastern Gabon. Photograph by J.-F. Gillet.

13°18'54.2"E) in a dense, humid, evergreen forest dominated by Burseraceae (okoume and ozigo trees), *Scyphocephalium* (sorro) and Caesalpinioidae (Figure 1). This forest lies in Mouloundou Dept, Ogooué-Lolo Prov. The carapace showed no sign of predation by humans, and there is no reason to believe it did not die naturally. New locality record (Maran and Pauwels, 2005).

Crocodylia
Crocodylidae
*Osteolaemus tetraspis* Cope, 1861
An adult individual was photographed by JFG on 31 January 2018 in dense humid forest (0°49'30.7"S, 13°17'32.2"E, logging concession UFA 2 Okondja of Precious Woods - CEB), Mouloundou Dept, Ogooué-Lolo Prov. (Figure 2). New locality record (Pauwels and Vande weghe, 2008; Shirley and Austin, 2017).

Squamata
Agamidae
*Agama agama* (Linnaeus, 1758)
The adult individual RMCA 88-28-R-1 was collected in Booué (Lopé Dept, Ogooué-Ivindo Prov.) along the Ogooué River by the Belgian archeozoologist Wim Van Neer on 21-22 June 1988. It shows a striated throat, a SVL of 118 mm, a TaL of 127 mm (tip missing, healed) and a MSR of 69. New locality record (Pauwels and Vande weghe, 2008; Pauwels, Carlino et al., 2016). Pauwels and Pantchev (2018: Figure 8.3) illustrated an adult female in the market of Mayonami (on the bank of Nyanga River), Basse-Banio Dept, Nyanga Prov. It was found on dead fish for sale, hunting insects attracted by the fishes.

*Agama lebretoni* Wagner, Barej & Schmitz, 2009

**Figure 3**. Adult male *Agama lebretoni* in Nyonié, Estuaire Prov., northwestern Gabon. Photograph by J.-L. Albert.

**Figure 2**. Adult *Osteolaemus tetraspis* in Mouloundou Department, Ogooué-Lolo Province, eastern Gabon. Photograph by J.-F. Gillet.

On 25 February 2018 JLA photographed an adult male on the fence of a terrace in Nyonié (0°02'24.2"S, 9°20'29.2"E), Komo-Océan Dept, Estuaire Prov. (Figure 3). New dept record. Within Estuaire Prov., this anthropophilic lizard was previously reported only from Libreville and Komo-Mondah depts (Pauwels, Carlino et al., 2016).

Chamaeleonidae
*Trioceros cristatus* (Stutchbury, 1837)
The labels of the adult male RMCA 2104 indicate as locality "Gabon: Lambarene", "Ogooué River, 6 Sept. 1907", and as collector "Bates (coll. Rosenberg), don de [gift from] M. Torley" (Figure 4). It shows a well developed dorsal crest, a SVL of 139 mm and a TaL of 114 mm. The species is already long known from Lambaréné (Mocquard, 1897).

*Trioceros owenii* (Gray, 1831)
An adult female was found freshly dead on 7 February 2018 by EP in a forested area (0°22'41.4"N, 10°33'48.6"E; alt. 671 m asl) near Ngoulmendjim in Komo Dept, Estuaire Prov. (Figure 5). New prov. record. Within the Crystal Mountains, this chameleon had so far been recorded from two villages in Haut-Komo Dept of Woleu-Ntem Prov. and in Crystal Mountains NP (Pauwels, Kamdem Toham et al., 2002; Pauwels, 2016).

We take this opportunity to mention that the female *Chamaeleo dilepis* from Gamba in Ogooué-Maritime Prov., illustrated laying eggs by Ineich and Pauwels (2017: 32), is the same individual shown by Pauwels and Vande weghe (2008: Figure 11).

**Figure 4**. Preserved adult *Trioceros cristatus* (RMCA 2104) from Lambaréné, Moyen-Ogooué Prov., central Gabon. Photograph by O. S. G. Pauwels.

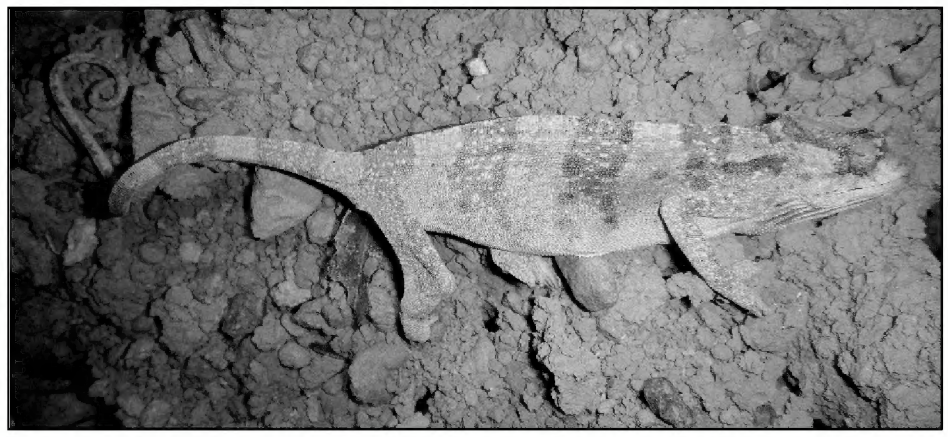


**Figure 5**. Freshly dead adult female *Trioceros owenii* from the Crystal Mountains, Estuaire Prov., northwestern Gabon. Photograph by E. Poirier.

*Rhampholeon spectrum* Buchholz, 1874
An adult male was photographed by JFG on 24 January 2018 on the litter of a dense forest (0°49'16.1"S, 13°16'45.4"E, logging concession UFA 2 Okondja of Precious Woods - CEB), Mouloundou Dept, Ogooué-Lolo Prov. (Figure 6). New locality record. Within the same Dept, this chameleon had already been documented from Langoué Bai (Pauwels, Böhme et al., 2008).

Gekkonidae
*Hemidactylus mabouia* (Moreau de Jonnès, 1818)
The label of the adult male RMCA 87-37-R-3, collected on 14 December 1986 by J. Borny (field nr MKU 36), mentions, in Dutch, "*gekko gevangen in huis* [gecko caught in a house], Makokou, Gabon, 00°34'N - 12°52'E," thus in Ivindo Dept of Ogooué-Ivindo Prov. It has a SVL of 59 mm, a TaL of 60 mm (last 18 mm regenerated), 15 DTR, widened SC and 32 femoroprecloacal pores. The adult female RMCA 87-37-R-4 was caught in the same locality but on 5 February 1987. It shows a SVL of 61 mm, a TaL of 56 mm (only first 6 mm original), 15 DTR, widened SC, and no pores. RMCA 87-37-R-5-6 (field nrs MKU 54 and MKU 55) are two adult females from the same locality but collected on 7 March 1987 and showing respectively SVL of 59 and 62 mm, TaL of 47 (tail original but tip missing) and 67 (tail original) mm, 14 DTR, widened SC, and no pores. The label of the adult female RMCA 87-37-R-7 (field nr MKU 68, collected by J. Borny) mentions "*vermoedelijk zelfde loc. als MKU 67: nabij waterpomp v/d gevangenis te Makokou* [probably same locality as MKU 67, near the water pump of the prison in Makokou], Gabon, 00°34'N - 12°52'E, 24.03.[19]87." It shows a SVL of 55 mm, a TaL of 67 mm (tail original), 16 DTR, widened SC, and no femoroprecloacal pores. The locality for the adult male RMCA 87-37-R-8, also collected by J. Burny, is simply "Gabon". It shows a SVL of 58 mm, TaL of 57 mm (tail original), 14 DTR, widened SC, and 36 femoroprecloacal pores. This gecko was already noted as abundant in Makokou by Knoepffler (1974).

Lacertidae
*Holaspis guentheri* Gray, 1863
The adult male individual RBINS 17286 was caught by day on 7 November 2005 while active on a dead tree trunk along the road in Toucan (1°46'37.3"S, 9°53'06.5"E), Etimboué Dept, Ogooué-Maritime Prov. It shows a SVL of 52.6 mm, a TaL of 42 mm; strongly flattened head, body and tail; two greatly widened, smooth mediodorsal scale rows; six longitudinal rows of transversely widened smooth ventral plates; 37 femoroprecloacal

**Figure 6**. Live adult male *Rhampholeon spectrum* in Mouloundou Dept, Ogooué-Lolo Prov., eastern Gabon. Photograph by J.-F. Gillet.

pores in a continuous row; and a fringe of lateral spiny scales on the tail. New dept record (Pauwels, 2007; Pauwels and Itam, 2013). Pauwels et al. (2006) had listed this lizard species from the Rabi-Toucan area based on observations in Rabi.

Scincidae
*Trachylepis albilabris* (Hallowell, 1857)
The adult individual RMCA 87-37-R-9 (field nr MKU 39) was "*gevangen in huis te* [caught in a house in] Makokou, Gabon, 0°34'N - 12°52'E" by J. Burny. It shows a SVL of 70 mm, a TaL of 126 mm; a transparent disk in each lower eyelid; supranasals not in contact; prefrontals in contact with each other; one scale between the last supraocular and the anterior supratemporal; parietals in contact by a point; 7/7 SL; 4/4 supraoculars; 6/6 supraciliaries; 30 MSR; three keels per dorsal scale. New locality record (Carlino and Pauwels, 2015). Gvoždík et al. (2018) mentioned that "the photograph of '*T. albilabris*' from Gamba, Ogooué-Maritime Province, Gabon published by Pauwels and Vande weghe (2008) probably represents *T. makolowodei* as indicated by a presence of two scales between last supraocular and anterior supratemporal (one scale in *T. albilabris* […]), and the characteristic colour pattern and a general body robustness." Based on this, they claimed, a few lines below, that "The species is now *confirmed* from Cameroon, Central African Republic, Gabon, […]" (italics ours). The individual illustrated by Pauwels and Vande weghe (2008: 122: Figure 156) however shows one scale between the posterior supraocular and the anterior supratemporal, and three keels per dorsal scale (versus 7 to 9 keels in *T. makolowodei*, cf. Chirio et al., 2008). Based on its coloration it was an adult and its SVL was about 70 mm (Pauwels, unpublished data; versus an adult SVL of about 120 mm in *T. makolowodei*). It shows a color pattern and a habitus that are typical for *Trachylepis albolabris*, a species whose type-locality lies in Gabon (Hoogmoed, 1974). We consequently reject the re-identification of the Gamba specimen as *T. makolowodei*, and the first record of the latter species from Gabon.

Colubridae
*Dipsadoboa viridis* (Peters, 1869)
An adult individual (Figure 7) was photographed by TS in

**Figure 7**. Live adult *Dipsadoboa viridis* in Andok Foula, Estuaire Prov., northwestern Gabon. Photograph by T. Stévart.

Andok Foula (0°22'54.5"N, 10°14'22.0"E; alt. 3 m asl), Komo Dept, Estuaire Prov., in October 2017. It was found in secondary forest, along the eastern bank of Mbé River. New locality record. Within the same dept, the species was already reported from Kinguélé (Pauwels, Kamdem Toham et al., 2002).

*Grayia caesar* (Günther, 1863)
A subadult individual was found freshly dead on 4 February 2018 by EP at the foot of a tree in a forested area (0°23'56.3"N, 10°34'35.0"E; alt. 430 m asl) near Ngoulmendjim, within a few dozen meters from Komo River in Komo Dept, Estuaire Prov. (Figure 8). This observation represents a new prov. record for this rare aquatic snake (Pauwels and Vande weghe, 2008). Within the Crystal Mountains, the species had already been recorded from two localities in the Haut-Komo Dept of Woleu-Ntem Prov., but it is still unrecorded from Crystal Mountains NP, where the species however most certainly occurs (Pauwels, Kamdem Toham et al., 2002; Pauwels, 2016).

*Grayia ornata* (Barboza du Bocage, 1866)
JFG collected two specimens (RMCA A1-090-R-0001-2, only heads preserved) from "*environs de Mboumi (Gabon)*" between 1 July and 30 August 2001. Mboumi (0°23.7'S, 10°49.0'E) is located in Abanga-Bigné Dept, Moyen-Ogooué Prov. New locality record (Pauwels, 2017; Pauwels, Gillet et al., 2018). Both specimens show a round pupil and two pairs of sublinguals. Their other head scalation data are presented in Table 1; they are not individually numbered, so we arbitrarily numbered them.

*Rhamnophis aethiopissa aethiopissa* Günther, 1862
On 2 February 2018 JFG encountered an adult individual along a secondary logging road (0°49'18.6"S, 13°18'16.6"E; logging concession UFA 2 Okondja of Precious Woods - CEB), Mouloundou Dept, Ogooué-Lolo Prov. It was swallowing an adult treefrog head first, still alive (Figure 9). Aware of the presence of JFG, the snake nevertheless continued to swallow the frog, and once finished, quietly left into the forest. Based on its brown color with numerous small to medium-sized spots on flanks, a well-developed toe webbing, the absence of black and yellow marbled pattern on the hind legs, the absence of dark bars on dorsum, and the absence of a fleshy spur on the heel, we identify the prey as a *Leptopelis aubryi* (Duméril, 1856) (Anura: Arthroleptidae). The genus *Leptopelis* had already been recorded in the diet of this arboreal snake in Monts Doudou (Burger et al., 2004). New dept record (Pauwels, Carlino et al., 2016).

Lamprophiidae
*Boaedon olivaceus* (Duméril, 1856)
The label of RMCA 87-37-R-1 says "*een slang in huis gevangen* [a snake caught inside a house], Makokou, Gabon, 00°34'N-12°52'E" and that it was collected by J. Burny on 14 December 1986 (field nr MKU 35). Makokou is located in Ivindo Dept, Ogooué-Ivindo Prov. The snake shows on each side a temporal formula of 1+3+4; its vertebral row is not enlarged. Given the thickness of the base of its tail it is probably a male, but it could not be dissected for confirmation. Its other diagnostic characters are listed in Table 1. This species was already well known from Makokou (Knoepffler, 1966). This specimen was listed, without any locality data, even at the country level, by Moore and Jackson (2010) as material examined in a study on snake scalation.

**Figure 8**. Freshly dead subadult *Grayia caesar* from the Crystal Mountains, Estuaire Prov., northwestern Gabon. Photograph by E. Poirier.

**Figure 9**. Live adult *Rhamnophis aethiopissa aethiopissa* swallowing an adult *Leptopelis aubryi* (Anura: Arthroleptidae) in Mouloundou Dept, Ogooué-Lolo Prov., eastern Gabon. Photograph by J.-F. Gillet.

**Figure 10**. Live *Chamaelycus fasciatus* in a defensive posture in Ivindo National Park, northeastern Gabon. Note the flattened body. Photograph by P. Carlino.

*Chamaelycus fasciatus* (Günther, 1858)

On 23 November 2017 PC and FG encountered an individual (MSNS 270, field nr PC 958, see Table 1) of this rare snake near Ipassa Research Station (0°30'41.1"N, 12°48'03.5"E) in Ivindo NP, Ivindo Dept, Ogooué-Ivindo Prov. It was crossing a forest path at 21:20. It shows vertically elliptic pupils, and two apical pits per dorsal scale. On each side its temporal formula is 1+2. Its vertebral row is not enlarged. When approached and photographed, it flattened and coiled its body and made many attempts to bite (Figure 10). Its dorsal surface is dark grey with 31 black bars, often interrupted, on the dorsum, and seven above its tail. Its ventral surface, from chin to tail tip, is uniformly dark grey. First record for the park (Carlino and Pauwels, 2015; Pauwels, 2016). This brings the list of reptile species for Ivindo NP to 65 (Pauwels, Le Garff et al., 2016), i.e., half of the current herpetofaunal list for the country.

**Figure 11**. Live *Bitis arietans* in a savanna in Sébé-Brikolo Dept, Haut-Ogooué Prov., southeastern Gabon. Photograph by L. Bahaa-el-din.

Viperidae

*Bitis arietans* (Merrem, 1820)

An individual was photographed by LB in 2011 in a savanna (1°00'06.2"S, 13°25'08.2"E) in Sébé-Brikolo Dept, Haut-Ogooué Prov. (Figure 11). New dept record. This locality lies only about 2 km from the border with Ogooué-Lolo Prov., from where the species has not yet been recorded (Pauwels, Ibouili et al., 2012; Pauwels, Carlino et al., 2017; Pauwels, Oger et al., 2018).

**Acknowledgments**

EP thanks Gustave Nguema and Amélie Morin (TEREA) for coordinating the baseline study for the FGIS/Eranove Consortium's dam project. JFG received funding from the FNRS (AFRITIMB project), the FFEM (P3FAC project) and the Fonds Leopold III, in collaboration with Gembloux Agro-Bio Tech, ULB, Nature +, and Precious Woods Gabon-CEB. We are grateful to Daniel Franck Idiata and Aurélie Flore Koumba Pambo (CENAREST, Libreville) who facilitated the research permit for the MSNS and for TEREA (permit AR0031/17/MESR/CENAREST/CG/CST/CSAR). OSGP thanks Danny Meirte for giving access to the RMCA collections. LC and OSGP thank Václav Gvoždík (Czech Academy of Sciences, Brno) for useful discussions on *Trachylepis*.

**Table 1**. Morphological data for colubrid and lamprophiid snakes. NA = not available. For the other abbreviations see Materials and Methods.

| Species and collection number | Sex | SVL (mm) | TaL (mm) | DSR | PV + VEN | A | SC | SL | IL | Lor | PreO | PoO | AT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Colubridae | | | | | | | | | | | | | |
| *Grayia ornata* | | | | | | | | | | | | | |
| RMCA A1-090-R-0001 | NA | NA | NA | 19-NA-NA, U | 1+NA | NA | NA | 8(4)/8(4)* | 11(5)/11(5) | 1/1 | 1/1 | 2/2 | 2/1† |
| RMCA A1-090-R-0002 | NA | NA | NA | 19-NA-NA, U | 1+NA | NA | NA | 8(4)/8(4)* | 11(5)/10(4) | 1/1 | 1/1 | 2/2 | 2/2 |
| Lamprophiidae | | | | | | | | | | | | | |
| *Chamaelycus fasciatus* | | | | | | | | | | | | | |
| MSNS 270 | M | 192 | 31.5 | 17-17-15, U | 1+180 | S | 46, D | 7(3-5)/7(3-5) | 8(4)/8(4) | 1/1 | 1/1 | 2/2 | 1/1 |

*on each side an extralabial scale between SL 5 and 6.

† on the right side the two AT are fused.

## Literature Cited

Burger, M., W. R. Branch and A. Channing. 2004. Amphibians and reptiles of Monts Doudou, Gabon: Species turnover along an elevational gradient. Pp. 145-186. *In*: B. Fisher. Monts Doudou, Gabon. A floral and faunal inventory with reference to elevational variation. Memoirs of the California Academy of Sciences 28. San Francisco: California Academy of Sciences.

Carlino, P., and O. S. G. Pauwels. 2015. An updated reptile list of Ivindo National Park, the herpetofaunal hotspot of Gabon. Bulletin of the Chicago Herpetological Society 50(3):25-39.

Chirio, L., I. Ineich, A. Schmitz and M. LeBreton. 2008. A new species of *Trachylepis* Fitzinger, 1843 (Squamata: Scincidae) from Central African forests. African Journal of Herpetology 57(1):13-28.

Dowling, H. G. 1951. A proposed standard system of counting ventrals in snakes. British Journal of Herpetology 1(5):97-99.

Gvoždík, V., M. Dolinay, A.-G. Zassi-Boulou and G. Badjedjea Babangenge. 2018. New data on *Trachylepis makolowodei* from Central Africa. Herpetology Notes 11:515-518.

Hoogmoed, M. S. 1974. Ghanese lizards of the genus *Mabuya* (Scincidae, Sauria, Reptilia). Zoologische Verhandelingen 138:1-62 + pl. 1-6.

Ineich, I., and O. Pauwels. 2017. Les caméléons. Des lézards fascinants et menacés. Le Courrier de la Nature 307:27-35.

Knoepffler, L.-P. 1966. Faune du Gabon (amphibiens et reptiles). I. Ophidiens de l'Ogooué-Ivindo et du Woleu N'tem. Biologia Gabonica 2(1):1-23.

————. 1974. Faune du Gabon (amphibiens et reptiles). II. Crocodiles, chéloniens et sauriens de l'Ogooué-Ivindo et du Woleu N'tem. Vie Milieu 24(1), C:111-128.

Maran, J., and O. S. G. Pauwels. 2005. Etat des connaissances sur les tortues continentales du Gabon: distribution, écologie et conservation. Bulletin de l'Institut Royal des Sciences naturelles de Belgique 75:47-60.

Mocquard, F. 1897. Sur une collection de reptiles recueillie par M. Haug, à Lambaréné. Bulletin de la Société Philomathique de Paris, 9, 1896-1897:5-20.

Moore, K., and K. Jackson. 2010. A quantitative analysis of two scale characters in snakes. Amphibia–Reptilia 31:175-182.

Pauwels, O. S. G. 2007. Liste des amphibiens et reptiles du Complexe d'Aires Protégées de Gamba, Gabon / Checklist of the amphibians and reptiles of the Gamba Complex of Protected Areas, Gabon. Bilingual French / English color leaflet. Washington, D.C.: Monitoring and Assessment of Biodiversity Program, Smithsonian Institution.

————. 2016. Annexe 5. Liste des reptiles. Pp. 364-366. *In*: J. P. Vande weghe, P. Christy, M. Ducrocq, M. Lee, G. Vande weghe and O. S. G. Pauwels. Biodiversité des parcs nationaux et réserves du Gabon. 2. Espèces, écosystèmes et populations. Libreville, Gabon: Agence Nationale des Parcs Nationaux.

————. 2017. Les reptiles. Pp. 256-265. *In*: J. P. Vande weghe and T. Stévart, editors. Le delta de l'Ogooué. Libreville, Gabon: Agence Nationale des Parcs Nationaux.

Pauwels, O. S. G., W. Böhme and J.-J. Tanga. 2008. Das Westliche Erdchamäleon *Rhampholeon spectrum* Buchholz, 1874 in Gabun. Elaphe 16(3):59-61.

Pauwels, O. S. G., M. Burger, W. R. Branch, E. Tobi, J.-A. Yoga and E.-N. Mikolo. 2006. Reptiles du Complexe d'Aires Protégées de Gamba, sud-ouest du Gabon. Pp. 91-100. *In*: A. Alonso, M. E. Lee, P. Campbell, O. S. G. Pauwels and F. Dallmeier, editors, Gamba, Gabon: Biodiversité d'une forêt équatoriale africaine / Gamba, Gabon: Biodiversity of an equatorial African rainforest. Washington, D.C.: Bulletin of the Biological Society of Washington (12).

Pauwels, O. S. G., P. Carlino, L. Chirio and J.-L. Albert. 2016. Miscellanea Herpetologica Gabonica IV. Bulletin of the Chicago Herpetological Society 51(5):73-79.

Pauwels, O. S. G., P. Carlino, L. Chirio, Q. Meunier, J. V. Okouyi Okouyi, C. Orbell, D. Rousseaux and O. Testa. 2017. Miscellanea Herpetologica Gabonica IX. Bulletin of the Chicago Herpetological Society 52(6):97-102.

Pauwels, O. S. G., and P. David. 2008. Miscellanea Herpetologica Gabonica I. Hamadryad 32(1):13-18.

Pauwels, O. S. G., J.-F. Gillet, Y. G. Ongonwou Sonnet and L. Chirio. 2018. Miscellanea Herpetologica Gabonica XII. Bulletin of the Chicago Herpetological Society 53(5):105-110.

Pauwels, O. S. G., G.-R. Ibouili, K. Kombila and B. Huijbregts. 2012. La vipère heurtante. P. 143. *In*: J. P. Vande weghe, editor, Les parcs nationaux du Gabon. Moukalaba-Doudou. Libreville, Gabon: Agence Nationale des Parcs Nationaux.

Pauwels, O. S. G., and S. Itam. 2013. *Holaspis guentheri* (Günther's Gliding Lizard). Predation. Herpetological Review 44(4):674-675.

Pauwels, O. S. G., A. Kamdem Toham and C. Chimsunchart. 2002. Recherches sur l'herpétofaune des Monts de Cristal, Gabon. Bulletin de l'Institut Royal des Sciences Naturelles de Belgique 72:59-66.

Pauwels, O. S. G., B. Le Garff, I. Ineich, P. Carlino, I. Melcore, L. Boundenga, C. Vigna, T. Stévart, K. Jeffery, C. Orbell, J.-B. Squarcini, J. P. Vande weghe and L. J. T. White. 2016. Miscellanea Herpetologica Gabonica V & VI. Bulletin of the Chicago Herpetological Society 51(11):177-185.

Pauwels, O. S. G., M. J. L. Oger and D. Meirte. 2018. Miscellanea Herpetologica Gabonica XIII. Bulletin of the Chicago Herpetological Society 53(7):145-151.

Pauwels, O. S. G., and N. Pantchev. 2018. Risks for human health related to invasive alien reptiles and amphibians. Pp. 108-119. *In*: G. Mazza and E. Tricarico, editors. Invasive species and human health. Wallingford, U.K.: Centre for Agriculture and Biosciences Int'l.

Pauwels, O. S. G., and J. P. Vande weghe. 2008. Reptiles du Gabon. Washington, D.C.: Smithsonian Institution.

Shirley, M. H., and J. D. Austin. 2017. Did Late Pleistocene climate change result in parallel genetic structure and demographic bottlenecks in sympatric Central African crocodiles, *Mecistops* and *Osteolaemus*? Molecular Ecology 26(22):6463-6477.

*Bulletin of the Chicago Herpetological Society 53(9):191-192, 2018*

# Notes on Reproduction of Little Mexican Toads, *Anaxyrus kelloggi* (Anura: Bufonidae), from Sinaloa, Mexico

**Stephen R. Goldberg**
**Biology Department, Whittier College**
**Whittier, CA 90608**
**sgoldberg@whittier.edu**

## Abstract

A histological examination was conducted on gonads from 32 *Anaxyrus kelloggi* from Sinaloa, Mexico. The smallest mature males (sperm in seminiferous tubules) measured 31 mm SVL (N = 2) and were from June and July. The smallest mature female (mature oocytes) measured 30 mm SVL and was from July. Reproduction of *A. kelloggi* is synchronized with the appearance of the summer monsoon. All males (June to August) exhibited spermiogenesis (sperm formation). All females (July and August) were in spawning condition. One presumed newly transformed individual (SVL = 16 mm) was found in September.

*Anaxyrus kelloggi* (Taylor, 1938) occurs along the Pacific Coastal Plain of Mexico between latitudes 22°N and 29°N from Nayarit to Sonora, Mexico (Hulse, 1977). Hardy and McDiarmid (1969) reported the first *A. kelloggi* (as *Bufo kelloggi*) were seen on 12 July and calling males of *A. kelloggi* were first heard in mid-August. The biology of *A. kelloggi* (as *Bufo kelloggi*) is summarized in Hulse (1977). Rorabaugh and Lemos-Espinal (2016) reported breeding of *A. kelloggi* in Sonora, Mexico began with the first summer rains and continued to at least late August; sexual maturity is reached at about 29 mm SVL. In this paper I present data from a histological examination of *A. kelloggi* gonadal material from Sinaloa, Mexico, and provide the minimum sizes for reproductive maturity in males. The use of museum collections for obtaining reproductive data avoids removing additional animals from the wild.

A sample of 32 *A. kelloggi* consisting of 24 males (mean SVL = 35.8 mm ± 3.1 SD, range = 31–43 mm), 7 females (mean SVL = 41.4 mm ± 7.6 SD, range = 30–51 mm) and one juvenile (SVL = 16 mm) collected 1958 to 1968 in Sinaloa, Mexico and maintained in the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California, USA (Appendix) was examined. I used an unpaired *t*-test for analyzing the differences in mean SVL between the sexes (Instat, vers. 3.0b, Graphpad Software, San Diego, California).

A small incision was made in the lower part of the abdomen and the left testis was removed from males and a piece of the left ovary from females. The gonads were embedded in paraffin, sections were cut at 5 $\mu$m and stained with Harris hematoxylin followed by eosin counterstain (Presnell and Schreibman, 1997). Histology slides were deposited at LACM.

The testicular morphology of *A. kelloggi* is similar to that of other anurans (Ogielska and Bartmańska, 2009a). Within the seminiferous tubules, spermiogenesis occurs in cysts which remain closed until the late spermatid stage is reached; cysts then open and differentiating sperm reach the lumina of the seminiferous tubules (Ogielska and Bartmańska, 2009a). All 24 males (N = 9 June; (N = 5) July; (N = 10) August) exhibited spermiogenesis in which sperm cysts were open, each containing a cluster of sperm. Clusters of intertwined sperm were commonly seen in many lumina of the seminiferous tubules. A ring of germinal cysts was typically noted on the inner border of each seminiferous tubule. The smallest reproductively active males (spermiogenesis) measured 31 mm SVL (LACM 6065, 87818) and were from July and June, respectively.

The mean SVL of *A. kelloggi* females was significantly larger than that of males ($t = 2.8$, $df = 29$, $P = 0.009$). The ovaries of *A. kelloggi*, typical of other anurans, are paired organs lying on the ventral sides of the kidneys, and containing diplotene oocytes in various stages of development (Ogielska and Bartmańska, 2009b). Mature oocytes are filled with yolk droplets; the layer of surrounding follicular cells is thinly stretched. All seven females (N = 3 July; N = 4 August) were in spawning condition and contained mature yolk filled oocytes. Follicular atresia (spontaneous, progressive oocyte degeneration, *sensu* Saidapur, 1978; Uribe, 2009) was noted in 2/7 (29%) examined *A. kelloggi* females. One presumed newly transformed individual (LACM 87778) measured 16 mm SVL and was collected 5 September. The smallest reproductively active female *A. kelloggi* (mature oocytes) measured 30 mm SVL (LACM 87775) and was from July.

As was the case for *Incilius mazatlanensis* (Goldberg, 2017) (from Sinaloa, Mexico) and *I. marmoreus* (Goldberg, 2018) (Colima and Sinaloa, Mexico), reproduction of *A. kelloggi* is synchronized with the summer monsoons. Because I did not examine samples from earlier in the year (May) or later (September) the onset or conclusion of *A. kelloggi* reproduction is not known.

**Acknowledgment**

I thank Greg B. Pauly (LACM) for permission to examine *A. kelloggi*.

## Literature Cited

Goldberg, S. R. 2017. *Incilius mazatlanensis* (Taylor, 1940). Reproduction. Mesoamerican Herpetology 4(4):918–920.

————. 2018. *Incilius marmoreus* (Wiegmann, 1833). Reproduction. Mesoamerican Herpetology 5(1):145–147.

Hardy, L. M., and R. W. McDiarmid. 1969. The amphibians and reptiles of Sinaloa, México. University of Kansas Publications, Museum of Natural History 18(3):39–252.

Hulse, A. C. 1977. *Bufo kelloggi* Little Mexican Toad. Catalogue of American Amphibians and Reptiles 200.1–200.2.

Ogielska, M., and J. Bartmańska. 2009a. Spermatogenesis and male reproductive system in Amphibia—Anura. Pp. 34-99. *In*: M. Ogielska, editor, Reproduction of amphibians. Enfield, New Hampshire: Science Publishers.

Ogielska, M., and J. Bartmańska. 2009b. Oogenesis and female reproductive system in Amphibia—Anura. Pp. 153-272. *In*: M. Ogielska, editor, Reproduction of amphibians. Enfield, New Hampshire: Science Publishers.

Presnell, J. K., and M. P. Schreibman. 1997. Humason's animal tissue techniques. Fifth edition. Baltimore: The Johns Hopkins University Press.

Rorabaugh, J. C., and J. A. Lemos-Espinal. 2016. A field guide to the amphibians and reptiles of Sonora, Mexico. Rodeo, New Mexico: ECO Herpetological Publishing and Distribution.

Saidapur, S. K. 1978. Follicular atresia in the ovaries of nonmammalian vertebrates. Pp. 225–244. *In:* G. H. Bourne, J. F. Danielli and K. W. Jeon, editors, International review of cytology, Vol. 54, New York: Academic Press.

Uribe, M. C. A. 2009. Oogenesis and female reproductive systems of Amphibia—Urodela. Pp. 273-304. *In*: M. Ogielska, editor, Reproduction of amphibians. Enfield, New Hampshire: Science Publishers.

**Appendix**

Specimens of *Anaxyrus kelloggi* from Sinaloa, Mexico, examined from the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California, USA. LACM 6053–6055, 6057, 6058, 6065, 6067, 6075–6077, 6080, 6081, 37107-37109, 50941, 50943, 50945, 87774– 87778, 87798, 87803, 87805, 87811, 87813, 87814, 87818, 87820, 87823.

---

*Bulletin of the Chicago Herpetological Society 53(9):192-194, 2018*

*Author's note: The following article involves the incidental arrival of tropical reptile stowaways in U.S.-bound banana shipments from Central and South America over the course of the 20th century, an artifact of the fruit industry that still occasionally happens today. The third (and final) in a series to appear in the* Bulletin of the Chicago Herpetological Society, *the paper has been taken from a much larger, soon-to-be-published work titled* The Dragon Traders: A Collective History of the Reptile Trade in America and the Age of Herpetoculture. *The nearly 500-page book chronicles the trends, events, people, and places that were influential in the popularization of reptiles as pets, as displays in zoological gardens, and in the 20th century American show trade, eventually culminating in the arrival of the captive propagation movement.*

# The Banana Industry: A Zoological Goldmine

**R. Michael Burger**
**510 Van Zandt County Road 2721**
**Mabank, TX 75147**
**ungaliophis@gmail.com**

"It is a source of some of our rarest and most unusual reptiles—tree-dwelling species that are difficult to collect and seldom seen on dealers' lists."

- Bronx Zoo curator James Oliver on stowaways in fruit shipments (Oliver, 1955).

The mighty banana. High in antioxidants, magnesium, and fiber, bananas are one of the most popular fruits in the world. Initially cultivated around 8,000 B.C. in Papua New Guinea, this likeable fruit comes in about 50 species, though most bananas sold in the U.S. have been cloned from just one variety—the Cavendish banana, originally native to southeast Asia. By all estimates the banana business is huge—approximately 150 million tons are harvested worldwide on an annual basis (2017 figures).

Edible fruit aside, the banana plant itself serves as a refuge for many arboreal reptiles and amphibians. During an extended collecting trip in Mexico during the late 1930s, for instance, herpetologist Hobart Smith found some of his most fruitful hunting areas were banana plants. "Bananas," he said, "afforded the most amazing results. The loose outer leaves on the trunks of the plants hold sufficient moisture to protect amphibians the dry season. The total number of species found in, on, or under bananas in this region was 23" (Anonymous, 1940).

Bananas and the industry surrounding their harvest and transportation have also served—quite unintentionally mind you—as a goldmine for rarely seen species at zoological institutions in the earlier years of the fruit industry. "Bunches of bananas offer perfect hiding places for various species of reptiles and amphibians accidentally carried to New York on the boats,"

A variety of primarily arboreal species have been discovered in banana shipments. This is a black-and-white snail-eating snake (*Dipsas bicolor*). Photograph by the author.

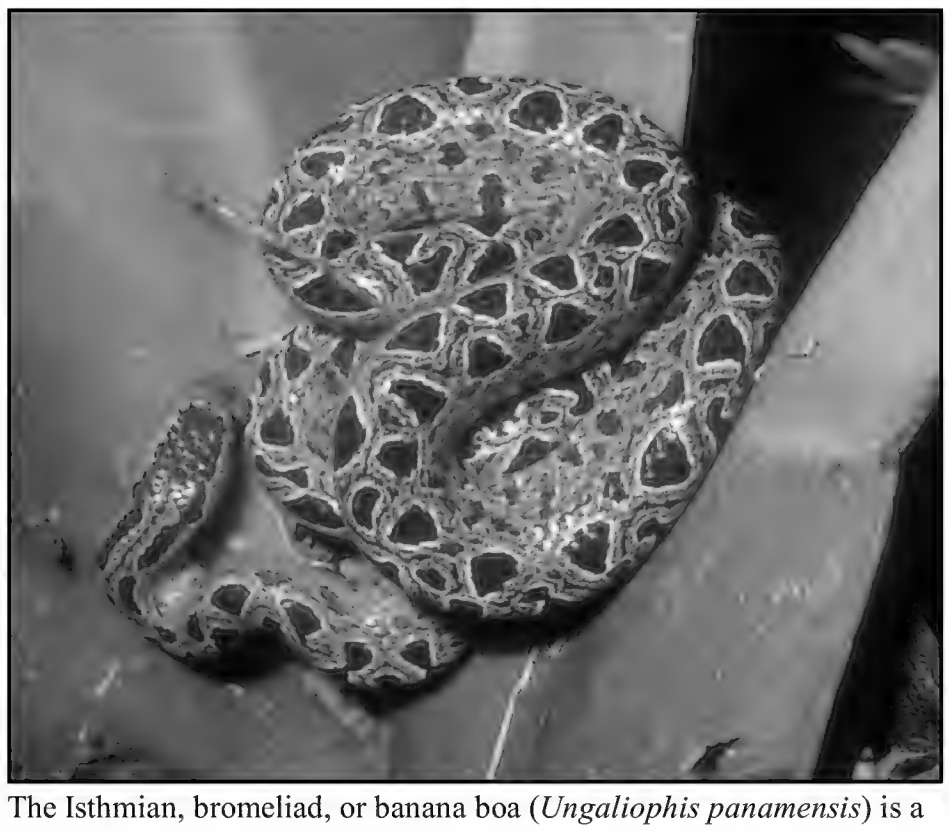
By mid-century, only a couple of dozen annulated boas (*Corallus annulatus*) were known to science. Photograph by the author.

reported Carl Kauffeld of the Barrett Park Zoo in Staten Island in 1938. "Occasionally spiders and scorpions or tree snails are included in these living cargoes. Every incoming boat, it seems, brings something new. In the last year over twelve species of frogs, lizards and snakes have arrived" (Anonymous, 1938).

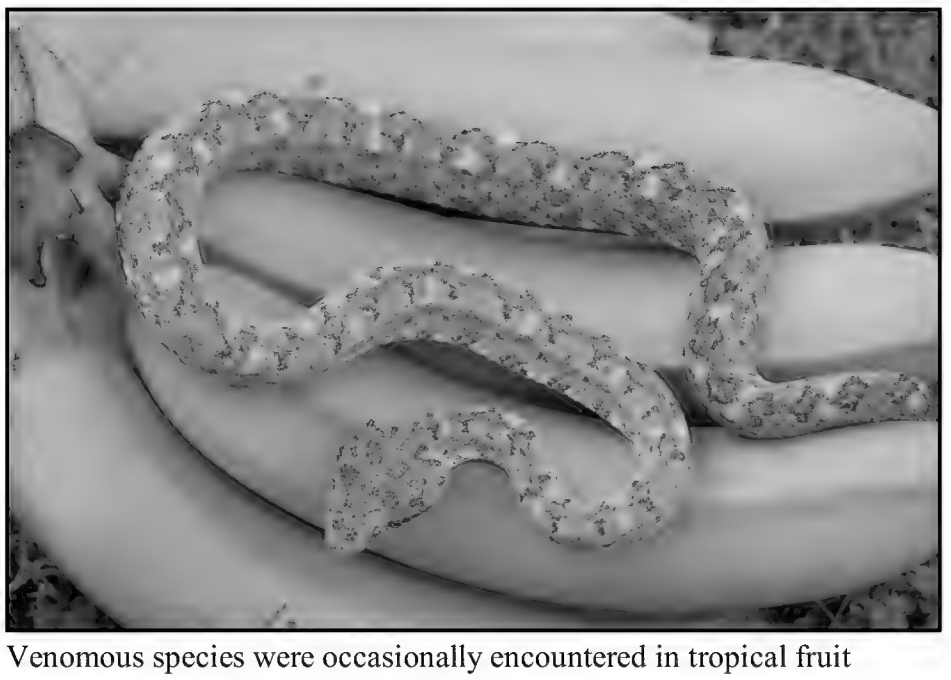
In those early years, when bananas were harvested and shipped to consumer markets without sprays and refrigeration, unexpected discoveries were not uncommon at fruit wholesalers and consumer markets. As time passed and the banana industry came of age, bananas became subject to sprays and dipped in chemical solutions at the countries of origin, sealed with protective coverings, and refrigerated at 56–59°F during transportation, thus lessening the likelihood of stowaways. By mid-century James Oliver observed that the discovery of a reptile on bananas in the retail grocery store was about as "rare as a model T Ford on New York's Fifth Avenue" (Oliver, 1955).

"In spite of this attention," wrote Oliver, "a few animals still manage to come through alive and, while the numbers have been decreased percentage wise, the increase in quantity of bananas is sufficient to supply us with occasional rare specimens" (Oliver, 1955). Although all were not rare. By the late 1930s for instance, Carl Kauffeld felt that Central American boa constrictors (*Boa imperator*) were the most common banana stowaways arriving in New York. "The Staten Island Zoo has received eight of these in the last year," read a newspaper (Ross, 1938). By the mid-1950s, Oliver felt that cat-eyed or spotted night snakes (*Leptodeira annulata*) were even more commonly encountered than boa constrictors in fruit shipments in the New York area. Other neotropical species that arrived at the Bronx Zoo during the 1950s through the banana trade included spiny tailed iguanas (*Ctenosaura similis*), snail-eating snakes (*Dipsas variegata*), a tropical kingsnake (*Lampropeltis abnorma*), a tropical rat snake (*Spilotes pullatus*), and a green tree snake (*Leptophis ahaetulla*) (Oliver, 1955).

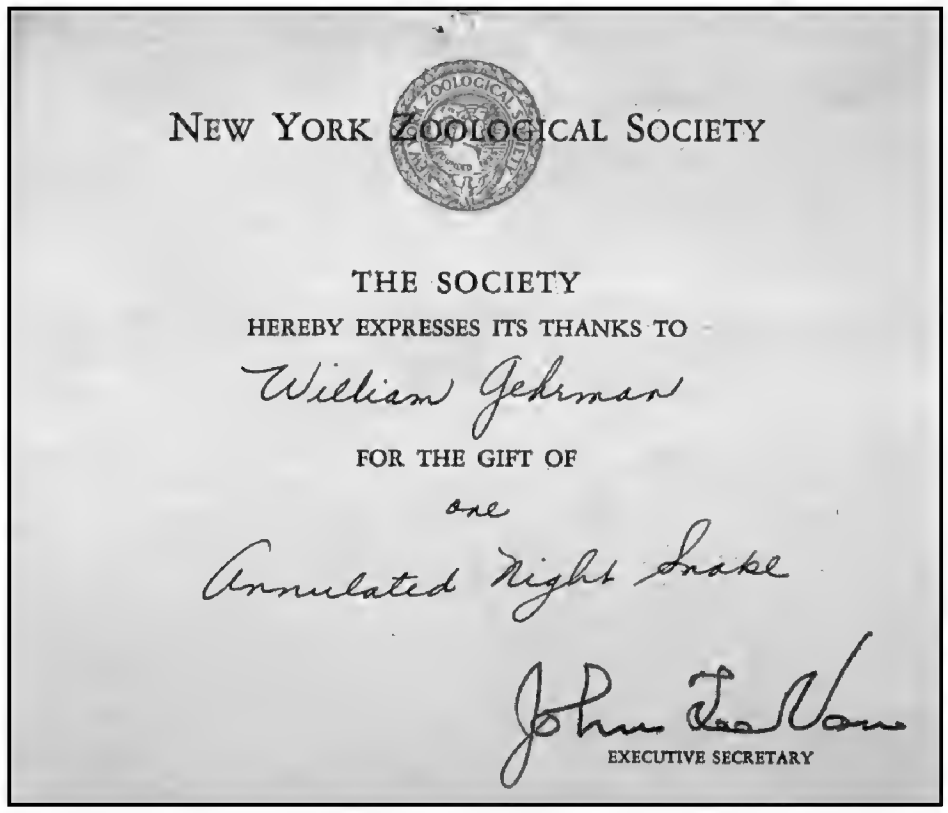
Some arrivals, however, were considerably rare in not only zoos but museum collections as well. In 1938, Kauffeld was fortunate enough to obtain a 45- inch annulated boa (*Corallus annulatus*) from a fruit shipment arriving from Costa Rica, claiming it was only the fifth or sixth specimen known to science since its description by Cope in 1875. "Very rare, very remarkable," noted an excited Kauffeld. "Only one other like it in America. We hope he'll live a long time!" (Ross, 1938). Almost twenty years later, the Bronx Zoo received two annulated boas a week apart. "The species is so rare that only



The Isthmian, bromeliad, or banana boa (*Ungaliophis panamensis*) is a diminutive, nocturnal species. This specimen was photographed near Tortuguero, Costa Rica. Photograph by the author.



Venomous species were occasionally encountered in tropical fruit shipments, sometimes with unfortunate consequences. This is an eyelash viper (*Bothriechis schlegelii*). Photograph by the author.




A certificate presented by New York Zoological Society to CHS member William H. Gehrmann in the 1950s for the gift of a cat-eyed or night snake (*Leptodeira* sp.) to the New York Zoo. The snake, as Bill remembers it, was originally acquired from a banana warehouse in the New York City area.

two small individuals are preserved in the vast collections of the American Museum of Natural History—both received in banana shipments," wrote Oliver (Oliver, 1955).

Another rare acquisition from a banana shipment became part of the collection at the Bronx Zoo in 1956. Receiving word that an unidentified snake arrived in a banana shipment in Bloomsburg, Pennsylvania, zoo curator James Oliver politely declined the offer, assuming the snake was probably a common boa. "It would cost a minimum of $2.50 to ship the specimen to us by railway express," Oliver noted, furthering, "this would be several times the value of a small boa constrictor" (Oliver, 1956).

"As far as I was concerned, the matter was closed—a simple routine correspondence that terminated like so many others," Oliver wrote, adding that the snake ended up being sent anyway. As a consequence, the zoo acquired a rarely seen dwarf boa (*Ungaliophis panamensis*), a snake that was only known to science from a handful of specimens up to that time. "The tale of this little boa points a moral for all reptile curators: never turn down a donation without first looking at it," noted Oliver (Oliver, 1956).

Banana shipments also occasionally harbored venomous snakes such as eyelash or palm vipers (*Bothriechis schlegelii*), a species that Bronx Zoo curator Raymond Ditmars was said to "frequently come north in fruit steamers, hidden in bunches of bananas" (Ditmars, 1933). Ditmars noted he once received a palm viper from a 14-year-old Philadelphia girl—who had in turn acquired the snake from her father after he brought it home from a Central American banana ship. Not feeding, the girl presented the snake in a thin cardboard box to Ditmars who gave one look and gently replaced the lid back on the box, tying it down. "It was a horned palm viper," he later noted. "A very deadly snake, but generally good natured in captivity and seldom offers to bite when disturbed" (Johnson, 1934).

Routine handling of bananas has also resulted in envenomations. A Columbus, Ohio, pet shop owner, responding to a call from a wholesale produce house in 1958, received a bite from an unidentified snake while he handled it with gloves. "I held it carefully, but somehow it got me," he said. Quickly bringing the snake to the Columbus Zoo, the snake was identified as a palm viper. As a precaution, the pet shop owner subsequently received one unit of "viper anti-venom" serum at a local hospital (Anonymous, 1958). Two years later in Indianapolis, a fruit handler received a bite from an unidentified tropical snake at another produce house. After his right forearm began to swell he was taken to the local hospital where his condition was reported to be critical, but improving. "I didn't get him right behind the head, and he bit me on the finger," he later said (Anonymous, 1961).

Venomous snakes apparently were not the only thing to be feared in banana shipments. In an 1897 newspaper article on stowaways in fruit shipments, a produce warehouse worker was said to have received a bite on his forearm from a tarantula, the newspaper noting, "it swelled up much as a snake bite does. The only thing to do is to give him the snake bite remedy, fill him up with rum and he will get over the bite all right" (Anonymous, 1897).

**Literature Cited**

Anonymous. 1897. Bad biters in bananas. Lawrence [Kansas] Daily Journal. December 28, 1897, page 2.

————. 1938. Fruit freighters bring rare snakes to New York port. The Independent Record [Helena, Montana]. December 18, 1938, page 18.

————. 1940. Reptiles reach new U.S. home. Arizona Daily Star [Tucson]. December 12, 1940, page 5.

————. 1958. Viper from stalk of bananas bites pet shop owner. The Sandusky [Ohio] Register. December 10, 1958, page 19.

————. 1961. Banana snake bites "expert" removing him. Chicago Daily Tribune. February 8, 1961, page 4.

Ditmars, R. 1933. Reptiles of the world. New York: The Macmillan Co.

Johnson, T. M. 1934. Strange wild creatures tamed by man as pets. Popular Science. June 1934.

Oliver, J. A. 1955. Banana bonanza. Animal Kingdom 58(3):66-71.

————. 1956. A rare gift: the Guatemalan boa. Animal Kingdom 59(2):56-57.

Ross, P. 1938. Celebrity stowaway. Dunkirk [New York] Evening Observer. July 21, 1938, page 6.

*Bulletin of the Chicago Herpetological Society 53(9):195-198, 2018*

# A Tiny Snake and a Lotta Bull

**Roger A. Repp**
**9044 N. Valgrind Lane**
**Tucson, AZ 85743**
**repproger22@gmail.com**

Back in the spring of 2012, I hefted a plank in front of a multinational group of herpers and uncovered what I *thought* was a cool snake. I proudly held the six-inch-long little gem in the palm of my right hand and exclaimed "Cool! It's a Black-headed Snake." To say that my enthusiasm for the little creature was not shared by the group would be an understatement. The person in the group whom I liked the least said something that made me like him all the leaster. In a very condescending tone of voice, he informed me: "Roger! Dot ish *not* a schnake!" The rest of his little clicque broke into chuckles about his little "Dot ish *not* a schnake" joke. They all thought he was a wit of sorts, and I suppose that they were *half* right about that. Truth is, I considered this to not only be a snake, but a very worthy snake as well. I began casting pearls of *Tantilla* wisdom before these swine regarding what a treat it was to find one of these. This made them laugh all the harder. When Europeans laugh, they laugh with a foreign accent, which is most unbecoming. Soon, snot was running out of their noses, and foodstuffs were flying from their respective slobbering gullets. Yup! "Dot ish not a schnake" seemed to be a real knee-slapper all right. The more they laughed, the more indignant I became, and the more indignant I became, the harder they laughed. I eventually informed them that they could go find their own snakes from now on. I had had enough of their haughty "size matters" bullshit, and released the little snake back where it was found. For the remainder of the day, I demonstrated to them what was meant by the term "Ugly American." And man, can this American *ever* be ugly when he wants to be!

It takes a big man to admit that he likes small snakes. I like *all* snakes, and I try too hard to find and document snakes of all kinds to start discriminating based on size. If I find 400 snakes, and three of them are dinky little things, I have *still* found 400 snakes, *not* 397! (Without going to a *lot* of trouble, that ratio—three out of 400 snakes are *Tantilla*—is probably very close to reality). And should I ever find a little *Tantilla* in your presence, don't you *dare* make fun of my little snake. I'm hyper-sensitive about such things.

On 11 October 2014, a gang of five of us (Urs Brünner, his wife Heidi, Patti Mahaney, Jeff Smith and this author) assailed a fabulous canyon in the Rincon Mountains, roughly 30 miles east of Tucson. The big game snake that can be found here is the Arizona Black Rattlesnake (*Crotalus cerberus*). In this specific area, arguably the most stunning color phases of *cerberus* in all of Arizona can be found. But these black and yellow dandies are difficult to find at this location. Indeed, a small group of good snake hunters might average one every third outing. That one snake is usually so spectacular that all the hours burned seeking it are forgotten. If this author only sought snakes for the purpose of finding large numbers of them, he would not bother with the Rincon Mountains for *cerberus*. Quality can sometimes overrule quantity, and every time I encounter one of these fantastic Rincon *cerbs*, I rejoice, and treat it like the last one I'll ever see. Furthermore, the area that these screamers (I call them "black velvet") inhabit is one of my most favorite places in the world to visit. The canyon itself is rather wide, averaging perhaps 100 meters across. Two gently sloping and boulder-infested hillsides line the north and south side. The canyon bottom is flat, with several small, clear streams that meander slowly eastward. Canyon Treefrogs (*Hyla arenicolor*), Black-necked Gartersnakes (*Thamnophis cyrtopsis*) and Sonoran Mud Turtles (*Kinosternon sonoriense*) can be found in and around these watercourses. Massive oak, cottonwood, walnut, sycamore and catclaw trees tower along the edges of these streams, and are also scattered willy-nilly through-out lush, grass-covered meadows. The area is a verdant barrage of serene tranquility, and a rare combination of sun and shade in a state known mostly for its harsh and unforgiving landscapes. Even when I find nothing there, I *always* take back something worth remembering. The canyon is reminiscent of some of the finest forest preserves in Northern Illinois, and I always feel like I am "back home" (the best parts of "back home") whenever I visit. The visuals of frogs, gartersnakes, and turtles all enhance the northern Illinois illusion.

Getting back to 11 October 2014, we had barely emerged from our vehicles when Jeff spotted a 90-cm-long Sonoran Whipsnake (*Masticophis bilineatus*) on the crawl. The snake obligingly fled into a clump of manzanita, and posed nicely for pictures. With so many cameras in the game, I did not photograph this snake. I have no desire to bother and subsequently leg hump any members of this party for the image and permission to use it, as it is not the topic of this article. Roughly one hour into the hike, I rolled a downed chunk of tree trunk, and uncovered an adult Madrean Alligator Lizard (*Elgaria kingii*). I played it safe by insisting that we first photograph the lizard in hand before we tried for a staged shot. The hand shot being done, I tried to pose the creature on top of the log that I had rolled. It tried to scramble off, and the bumbling, fumbling grab that I made for it caused the tail to break. Doink—wiggle, wiggle—SUCK! There was a chorus of groans and jeers from my companions over the misdeed, and any further attempts to photograph the prize were aborted. I hope that we somehow did it a favor, but doubt this to be the case.

We eventually broke into a vast, football-stadium-sized clearing. While a few towering oaks and cottonwoods appeared here and there, most of the scattered trees were scrubby mesquite, with a chessboard network of open areas covered with sparse, overgrazed grasses. Centered in obvious fashion among one of these cowpie and stubby grass-infested openings was a downed, flip-able log. When I say "flip-able," I mean that no *real* herper who ever spotted it could resist turning it over for a peek underneath. It even had a convenient handle of sorts at one end, which in turn conveniently allowed maximum leverage for

**Figure 1**. (See also Figures 2 and 4). "This author is a firm believer that lightning *can* strike twice at any herpetological sweet spot." The log in this photo has consistently produced *Tantilla hobartsmithi* since it was first discovered on 11 October 2014. Image by the author.

rolling it with minimal effort. (Figure 1). As "minimal effort" is my mantra, I used the handle with my right hand, placed my left hand down at the other end of the log, and rolled it away from me. I was delighted to find not just one, but *two* "Dot ish not a schnake" snakes. (Figure 2). This group was much more delighted with the find than those who went before them, and so after the photos were behind us, the log was replaced exactly as found, and the snakes were released there. On the way home, one more meter-long whipsnake was found, as well as a DOR that was most likely a Big Bend Patch-nosed Snake (*Salvadora deserticola*). (The systematics for the local *Salvadora* is in great need of some loving attention. I know that I am finding at least three different species here, but nobody has recently stepped up to properly get them squared away. That is a PhD project in the making for any taxonomist looking to make a name in our field). With exception to the double-barreled *Tantilla* log, we leave 11 October 2014 behind us, and flash forward to 2 May, 2015.

This author is a firm believer that lightning *can* strike twice at any herpetological sweet spot. The double *Tantilla* at the "Dot ish not a Schnake" log was burned in my brain that following May. How I yearned to take a peek underneath that log as Marty Feldner and I stepped out of my truck. But there is *never* a reason to hurry when immersed in our glorious canyon. That log was in my mental sights, but it was at least a mile away. We would get there quick enough. The two of us fanned out, and were soon engrossed with seeking patches of sun and shade amongst the tangled root snarls of the towering trees surrounding us. Before long we separated, and a short while later, Marty began hollering something about seeing a pair of whipsnakes mating. "Take a picture!" I hollered back as I began to double time in his direction. As I was a long way off, and hampered with a gammy knee, by the time I got to him the deed was long over. I do believe he got a photo, and later shared it with me. But I've decided to stubbornly stick to the *Tantilla* part of this column where photos are concerned. The "Dot ish not a schnake" people don't need anything distracting them. While there won't be any photo to share, we have something even better. I handed Marty my herp journal, and asked him to write down what he had just seen. Marty is a keen observer of wildlife, and we *both* know that catching the moment as soon as possible with words is important. I wrote the first sentence for him, and turned him loose. While I sat quietly beside him, the combined words appeared on page 35 of my battered journal of the time:

**Figure 2** Two Smith's Black-headed Snakes (*Tantilla hobartsmithi*) discovered under the log shown in Figure 1. Image by the author.

> *Pair of MABI in coitus 0946: At base of ~2.5 m tall (hackberry) shrub in full shade. Snakes were on slope of terrace above main drainage. What is believed to be the male was large, ~1.25 m, and the female, ~1.0 m. Only male head visible w/two tails side-by-side, and when spooked it took two seconds to decouple.*

Short, sweet and beautiful! Finding any species of snake mating is always a memorable experience, and documenting an early May coupling with Sonoran Whipsnakes (*Masticophis bilineatus*) is something I have never seen, read or even heard about. I hope the readers will remember that they saw it *here* first! This day was getting *very* interesting, but it was about to get *too* interesting!

At length, I found myself drawing close to the *Tantilla* log. There was a trivial fly in the ointment that would have prevented the "Dot ish not a schnake" people from proceeding onward. Figure 3 below recreates the situation that would have daunted lesser (wiser!) herpetologists. Now, be a good little reader, and cast your eyes upon Figure 3, and read the caption. Got it? Good

**Figure 3**. One picture is worth a thousand words. This image recreates the encounter between the author and a bull on 2 May 2015. As the author approached his favorite *Tantilla* log (center foreground), a bull awaited him. The actual habitat image is by the author; the image of the bull was provided and positioned in the habitat photo by Steve Barten. Refer to text for details.

show! The reason that I have had to resort to using Steve Barten's stand-in bull is because my first stupid act of the morning was in *not* taking an image of the real one. And I want the world to see the exact situation that I faced this day. Figure 3 is that exact situation, but with a different bull. Dr. Barten's Photoshop creation was used as a matter of convenience. He had an image of a bull, I had an image of the habitat, and through some painstaking back and forth efforts, we plopped Steve's bull into the exact patch of ground that my bull inhabited on that May morning. As bulls go, Steve's is a dandy! But it isn't at all like the bull that I saw that day. My bull did not have the long horns of Steve's. My bull had short horns that curled above his massive, mile-thick cranium. If anything, the shorter horns gave him an even more menacing appearance. His visage carried the look of a humorless Marine or football player, and those short horns accentuated his "dumb and mean" facial features. The massive neck hump strap muscles towered above his intimidating head. His legs were much shorter than that of the somewhat lanky longhorn in Figure 3. My bull was more the size and shape of an adult male rhinoceros. He was easily twice the mass of the longhorn, and there was not an ounce of fat on him. He was tan in color on his head and torso, giving way to all white from the middle of his legs to the underside of his belly. While I wasn't scared of him then, as these words are being typed, I am trembling like a prostitute in church thinking about what came next. By knowing what eventually happened, I am more afraid now than at any time during the event that was to follow.

Getting back to May 2015, I was about 30 feet from the *Tantilla* log. The bull was on one side, I was on the other. In order to get to the log, I would have to draw closer to the bull. Marty was well off to my left, working the streambed, out of my line of sight. As there was *no way* I was *not* going to flip that log, I used my best trick for getting rid of unwanted cattle pests. I rose to my full height, and began to wave my four-foot-long, 1¼-inch-diameter walking staff in the air. This was done with the same deliberate arrogance of Sammy Sosa stepping up to the plate to face an upstart St. Louis Cardinals pitcher. I sucked in a deep breath, and in a booming voice that carried for miles, I hollered "**GIT!**" This technique in the fine art of cattle riddance procedure had never failed me before. The usual response is a rapid about-face and hasty retreat of any bovine confronted. If my "can't fail" technique for striking fear into the heart of lesser cattle had any effect on this particular bull, he had a funny way of showing it. He definitely did *not* "git." He lowered his head, and his eyes rolled upward to lock on mine. There were anger and lots of hate in those eyes. His right hoof arched slowly—deliberately—into the air, and audibly thumped to the ground in front of him. He then pawed a deep furrow into the sandy loam beneath him, got into his four-legged stance again, and did not so much as flinch from his head-lowered, eyeball-locking posture.

His actions inspired me to yell louder, with even more authority, "***I SAID GIT!***" Now the left hoof arched upward, thumped down, and scratched another deep furrow into the ground, parallel with the first. And all was as before with him. This was probably my cue to leave. I could have easily wandered off and come back later to roll the log. That would have been the smart thing to do. But this was a matter of "stupid and stubborn vs. dumb and mean," and the actions that followed just plain could not have been any stupider from my end of the situation. In short: ***I wanted to roll that log NOW, and no pissant bull was going to stop me!*** Perhaps a quiet voice of reason would work?

"Now see here, Mr. Bull," says I in quiet, soothing tones to the rhinoceros, er-uh, bull before me, "all I want to do is give this log in front of you a quick roll. I'll just do that, and then be on my way, ok?" With that announcement, I took my first step toward that log. The bull quickly bobbed his head up and down. I took that to mean "be my guest." This was a devious bull! He didn't *really* mean "be my guest." He was *bullshitting* me! His head bob *really* meant "Get the hell outta here, lest I stomp your flabby ass all over the terrain that surrounds you." (This experience taught me that bulls can say a lot with a head bob). As I continued to ease toward the log, and subsequently draw closer to his heinie-ass the bull, the ground pawing and head bobbing began to intensify. He let me get close enough to the log to roll it, which I did. And wouldn't you know? There was indeed a *Tantilla* beneath it. I snagged the little snake, and offered it to Mr. Bull. "See! That's all I wanted. Now, just be a good little bull and stay where you are while I call Marty over for a look-see."

The idiotic actions that followed the capture of the *Tantilla* serve to demonstrate that I never really believed that the bull was going to charge me. I was concerned, but not worried. But just in case my thoughts that this bull was *not* going to charge were errant, I began seeking an escape route. As the bull was surrounded by some trees, getting up one of those might work. But to get to them I would first have to get around the bull. About 10 meters behind me was a barbed wire fence. I could possibly get to that fence before the bull got to me, but my high jumping skills ain't what they used to be. I could have done any number of things at this point. I could have slowly backed off, and brought the snake to Marty. That would have probably worked, and hindsight being what it is, would have been the best plan. But then I would have to walk all the way back again to release the snake, no doubt facing Mr. Bull again in the process. Without any further thought about the matter, I began to holler for my companion. "Hey Marty!" I bellowed, "I got a *Tantilla*! You want to see it?"

"What did you say?" Came Marty's distant response. And so, even louder, I bellowed "***EYE said I got a* Tantilla. *Do you want to see it?***" My yelling for Marty did nothing to improve the disposition of the bull. He was now rapidly pawing the ground and vigorously head-bobbing, and began to loudly snort his displeasure. Presently, Marty appeared on the horizon, and began hoofing across the clearing in my direction. His trajectory was such that he would soon be crossing in front of that bull in order to be at my side.

When Marty was about 50 feet away from me, the bull quickly glanced in his direction, and then turned to face me again. Apparently, this was not a people bull, for in his estimation, one was company, two was a crowd. I suggested to Marty "Angry bull! Angry bull!" This was Marty's cue to get out his camera and take the photograph of the century. Any images of a bull stomping and obliterating Roger Repp's ass all over the

**Figure 4**. "Dot ***ish*** a schnake!" The Smith's Black-headed Snake that the author captured just prior to facing a charging bull. Image by Martin J. Feldner

countryside would have earned him at least a hundred bucks! And now, the bull performed his final pre-attack warning. I may have imagined this, but I could swear that I saw steam spewing from his nostrils, and smoke coming from his ears. I said one more time "Angry bull," with the addition of "*and I think he's about to charge me!*" And with that announcement—he did!

There was no time to even consider a flee or fight decision. The truth is, I'm not very good at either. But when that bull came at me, I was suddenly more pissed off at him than he was at me. How *dare* this stupid sonofabitch think that he had an issue with me? That's right, me! Roger Repp, Herp King of Southern Arizona! This dumbass had an entire planet to go chew his cud upon, and his presence at **my** *Tantilla* log was interfering with ***my*** snake hunting experience. Who was boss around here? **ME!** And with that thought burned in my brain, I barreled straight back at him while hollering obscenities like a wildman. My walking stick was cocked as I made my banzai charge, and I swung it with all my might. My aim was centered on his eight-inch-wide, pink-colored slimy snout. In retrospect, the blow probably wouldn't have stopped him, but he would have had a sore nose long after I was six feet under—if he buried me that shallow. And then, I swung with all my might: "***EFF YOU! U-h-h-h!*** "

But I missed! The mighty Casey struck out! Actually, I *didn't* miss. He moved! At the last possible split second, he veered off, and trotted away from me, not stopping until he was out of sight. The last thing I noted of his retreat were his *enormous testicles*. They were each the size of a cantaloupe, and they jiggled ominously in his scrotum as he retreated. Once I realized what had just happened, mine did just the opposite. They retreated inside my body, where it took *days* to coax them back out.

And what was Marty's reaction to all this? What would *your* reaction be? Had the roles been reversed, I would have been shouting excited accolades at Marty, maybe clapping him on the back, laughing uproariously, and congratulating his quick thinking. But it was as if nothing had happened at all. There was no outward indication that he had just witnessed the near-total annihilation of a herp buddy. His only words were: "Let's have a smoke." The man is an oak! When I asked him if he got any pictures of the event, he replied, "I don't take pictures of cattle." But he *did* take a picture of my *Tantilla*, which much to my surprise, had remained clamped in my left hand throughout the ordeal! (Figure 4).

**Epilogue**

Shortly after this incident, I emailed a group of well over a hundred people describing it. I also included many images of the snakes that Marty and I found this day, the number and quality of which were remarkable. As one might imagine, the snake photos were consumed, and the words were not—much like my columns! (Nobody who received the email even bothered to suggest that we have a smoke.) Two weeks after that, I had a rather spooky encounter with a bobcat, and emailed *that* out to the same group. In the bobcat email, I included a wryly sarcastic sentence thanking the group over their concern about the bull. It *must* have been a slow day for Dave Barker, for in response to this second email, he created a *hilarious* photoshopped image of *his* take on my story. (Figure 5—if my editors allow it). As is often the case between Mr. Barker and myself, our stories don't quite match. Yeah right, Dave. Your versions are *always* better than mine. But you left out the best part. Following our after-sex smoke, the bull told me how great I was . . .

**Figure 5**. Dave Barker was inspired to create this comical image after hearing the story of the author facing an enraged bull over a tiny Black-headed Snake. See text for details.

This here is Roger Repp, signing off from southern Arizona, where the turtles are strong, the lizards are handsome, and the snakes are *all* snakes.

*Bulletin of the Chicago Herpetological Society 53(9):199-201, 2018*

# What You Missed at the August Meeting: Frank Ziegler

**John Archer**
**j-archer@sbcglobal.net**

When you think of Romania, the first thought that pops into your head is probably Transylvania. That is, if you think of Romania at all. Probably doesn't occupy much of your mental time. Certainly not in the top ten destinations worldwide for herpers. But if you were to join the Peace Corps and get assigned to that country for two years, what are you going to do? You're going to herp. And you're not going to be disappointed, because Romania is largely rural, with nearly 50% of the land being natural or semi-natural and an array of adventures that should satisfy the most demanding of nature lovers. Our August speaker convinced me that while Romania is probably not on many of our bucket lists, it offers surprising opportunities for a dedicated herper.

Frank Ziegler. Photograph by Dick Buchholz.

And Frank Ziegler is a dedicated herper, but he didn't travel to Romania to herp. From 2005 to 2007 he was assigned by the Peace Corps to that country. While he was officially an environmental volunteer, the Peace Corps says that its volunteers must be flexible, so Frank spent most of his working time teaching classes in English and building awareness of American culture. Most of his off time was spent herping. He traveled much of the country, took lots of photos and put together an interesting presentation. Ten years later we invited him to talk to your society. His troubles began with a late arriving flight into Chicago meaning he got to his hotel in the wee hours of the morning of our meeting. He still managed to find time before the meeting to tour Lincoln Park Zoo and survey the turtles around the Notebaert museum. He even arrived at the meeting early to ensure that his presentation was compatible with our equipment. Unfortunately, we had difficulty getting our computer to play his presentation. Slides were missing and rearranged. Videos wouldn't play properly. Recordings were misplaced. And just to make it more interesting, half way through his talk the remote clicker failed. Not your society's finest hour, but Frank persevered and delivered a talk that highlighted the really interesting herps of Romania and stirred our curiosity about that eastern European country. He titled his talk, "Reptiles and Amphibians of Romania; Two Years of Herping in the Wild East of Europe."

He started with a short overview of Romania. The country has the Carpathian Mountains, plains, the Măcin Mountains, the Danube River Basin and Delta, and the Black Sea. This variety of habitats combined with the extent of undeveloped land allows a multitude of wildlife to thrive, including herps. His training was near Braşov, about 80 miles northwest of the capital city, Bucharest, and surrounded by hills full of lizards. We saw photos of gorgeous emerald lizards (*Lacerta viridis*) and sand lizards (*Lacerta agilis*.) Multiple shots of the viviparous lizard (*Zootoca vivipara*) and wall lizards (*Podarcis muralis*) flashed on the screen. One doesn't need to travel to Europe to see the latter. Introduced wall lizards are thriving in Cincinnati, Ohio, and Victoria, Canada. We also looked at the pretty slow worm of Europe, *Anguis fragilis*. Romania even has a little skink, reminiscent of our ground skinks, the copper skink (*Ablepharus kitaibelii*).

Shortly after arriving in early spring, Frank found his first alpine newt (*Ichthyosaura alpestris*). He made one of his few calls home to tell his sister, who "also loves salamanders and newts. She's not as big a fan of snakes though. Nobody's perfect." He showed us pictures of *Bombina variegata*, the yellow-bellied toads which are common in Romania, and fire-bellied toads (*Bombina bombina*), not common in that country but Frank was lucky enough to spot a few. Yellow-bellied toads have very soft calls. Green toads (*Bufotes viridis*) and common toads (*Bufo bufo*) were prevalent, and Frank played recordings of some of their calls. He said *Bufo bufo* sounded and looked like the Sonoran Desert toad (*Incilius alvarius*) but he hadn't personally tested any other similarities. The green toads sound much like our American toad (*Anaxyrus americanus*). Agile frogs (*Rana dalmatina*) reminded Frank of our wood frogs (*Lithobates sylvaticus*), sharing not only appearance, but much of the same habits and natural history. Male moor frogs (*Rana*

You'll have to imagine the striking green of this emerald lizard (*Lacerta viridis*). Photograph by Frank Ziegler.

Yellow-bellied toads(*Bombina variegata*) were common. Photograph by Frank Ziegler.

The common and pretty green toad (*Bufotes viridis*). Photograph by Frank Ziegler.

A male alpine newt (*Ichthyosaura alpestris*). Photograph by Frank Ziegler.

The female alpine newt. Photograph by Frank Ziegler.

The grass snake (*Natrix natrix*) is Romania's version of the garter snake. Its musk even smells the same. Photograph by Frank Ziegler.

Frank's contribution to a tortoise study. *Testudo graeca* in hiding. Photograph by Frank Ziegler.

What's not to love about a little nose-horned viper (*Vipera ammodytes*)? Photograph by Frank Ziegler.

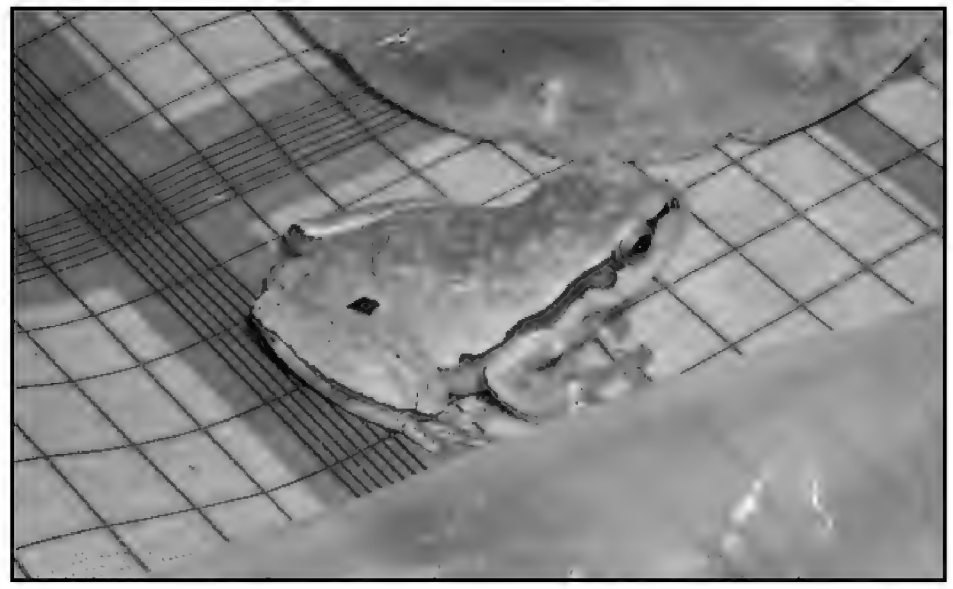
The results of a rescue mission. Story in the text. Photograph by Frank Ziegler.

*arvalis*) turn blue during breeding season. The edible frogs (*Pelophylax* spp.) resemble our leopard frogs (*Lithobates* spp.) but are more variable. In eastern Romania Frank came upon *Hyla arborea*, the common European treefrog, which looks something like our gray treefrog (*Hyla versicolor*).

He talked of how the toads and frogs use the small concrete livestock watering troughs set throughout the country, and his adventure when he rescued several frogs from a concrete cistern, using his host's laundry basket to transport them. Frank showed us a photo of the basket with several agile frogs, moor frogs, a common toad, and one skinny *Rana temporaria*. He showed the photo to his host. She decided that she would no longer use that basket.

During most of his two years he was based in Costeşti, with a splendid view of mountains out of his window. Around there he found alpine newts, and the smooth newt (*Lissotriton vulgaris*). Pictures of colorful bellies and dorsal crests appeared. Carpathian newts (*Lissotriton montandoni*) go through an eft stage. The efts look much like our efts.

Grass snakes (*Natrix natrix*) are as common as garter snakes are in North America, and Frank testified that their musk smells



A European treefrog (*Hyla arborea*). Photograph by Frank Ziegler.

just the same. Frank found the European pond turtle (*Emys orbicularis*), close relative of our Blanding's turtle (*Emydoidea blandingii*), on his expeditions to the Danube delta, one of Europe's largest deltas. He made friends with a local who guided him to some good herping spots.

He was lucky enough to participate in a study of Mediterranean spur-thighed tortoises (*Testudo graeca*) in the Măcin Mountains, Europe's second oldest mountain range. He worked with a select group of other NGO workers, volunteers, students and professors, including one of Europe's top herpetologists, Dr. Dan Cogălniceanu. Professor Cogălniceanu's website <http://www.ecoportal.ro/dan_cogalniceanu/> is worth looking at. His name certainly appears on many papers. On that trip Frank also saw the two spadefoot toads of Romania, *Pelobates syriacus* and *P. fuscus*. Photos were displayed of the smooth snake (*Coronella austriaca*), the Caspian whipsnake (*Dolichophis caspius*), and we looked at a nice picture of a little nose-horned viper (*Vipera ammodytes*).

Frank admitted that there were four herps found in Romania that he didn't see, but he showed us photos of the dice snake (*Natrix tessellata*), an aquatic snake that has a colorful belly and plays dead, the Aesculapian rat snake (*Zamenis longissimus*), a steppe runner (*Eremias arguta deserti*), a little lizard that inhabits its sandy areas, and the crested newt (*Triturus cristatus*.) According to papers coauthored by Dr. Cogălniceanu, there are 23 species of reptiles and 19 species of amphibians in Romania. It doesn't surprise me that Frank saw all but four. We're sorry that he struggled to give his presentation, but we're grateful that he did. Romania has new stature in my mind. It's no longer just the hang out of Dracula. Thanks Frank.

# Herpetology 2018

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

## HELLBENDER PREY PREFERENCE

Z. A. Cava et al. [2018, Journal of Herpetology 52(2):162-170] note that long-term interactions often shape predator–prey relationships in the form of a co-evolutionary "arms race." The arrival of nonnative species may disrupt these relationships by introducing novel behaviors that shift interactions in favor of one of the participants. The authors investigated the response of an imperiled native predator, the eastern hellbender (*Cryptobranchus alleganiensis*), to nonnative and native crayfish prey. Crayfish constitute an important prey item for hellbenders, and in the northern portion of its range where this research was conducted, the nonnative rusty crayfish (*Orconectes rusticus*) has become the dominant crayfish. The objective of this study was to determine prey choice and feeding success of hellbenders presented with native (Allegheny crayfish; *Orconectes obscurus*) and nonnative (rusty crayfish) crayfish prey. The authors tested hellbender chemoreception in discriminating between the native and nonnative prey, analyzed behavioral interactions between hellbenders and crayfish during video-recorded trials, and assessed hellbender selectivity of crayfish during overnight feeding trials. Hellbenders were able to discriminate crayfish odor from controls, showed a preference for the scent of native crayfish over nonnative crayfish, and were more likely to strike at native crayfish than at nonnative crayfish; however, more nonnative crayfish were consumed during overnight feeding trials. This discrepancy apparently resulted from differences in avoidance behavior between the prey species; native crayfish engaged more in predator-avoidance tail-flip responses and climbing retreats than the nonnatives, who tended to "stand their ground." Accordingly, during biotic invasions, food preferences of native predators may be superseded by antipredator prey behavior.

## GOPHER TORTOISES ON ROADSIDES

R. A. Seigel, and C. L. Parkinson [2018, Journal of Herpetology 52(2):136-144] note that small populations resulting from the impacts of habitat fragmentation are prone to increased risks of extinction because of a lack of population connectivity. Roads increase habitat fragmentation, but properly managed roadsides may be able to function as wildlife corridors. The authors use radiotelemetry to observe movement patterns of gopher tortoises (*Gopherus polyphemus*) along potential roadside corridors at the John F. Kennedy Space Center in Florida, USA, to determine if tortoises use roadsides as movement pathways between larger habitat patches or as residential habitat. Additionally, tortoises were translocated to study the feasibility of roadsides to function as movement corridors. Roadsides were not used as a movement pathway but rather as an apparent long-term residential habitat. Only one tortoise was observed exiting the roadside corridor, and minimum convex polygon home range sizes and distances traveled remain similar to those exhibited by tortoises in larger habitat patches. Following translocation, the authors observed a failure to return home, either by direct paths or by corridor use, for all but one tortoise. Instead, most tortoises remained along roadsides after only a brief period of exploration. Overall, roadsides act as independent, residential habitat instead of as a movement corridor. Future studies should focus on understanding the actual suitability of roadsides, as they may function as ecological traps given their attractiveness but high risk of mortality. While the authors urge caution, they recommend that current management should treat roadsides as residential locations for gopher tortoises and focus on reducing road mortality.

## IMMUNE ACTIVITY AND STRESS

E. Sanchez and J. M. Refsnider [2017, Journal of Herpetology 51(4):449-453] note that energetically expensive life-history events often require energy trade-offs with day-to-day maintenance activities, particularly when such life-history events are also physiologically stressful. To understand how an energetically expensive life-history event affects physiological stress and day-to-day maintenance, the authors compared stress levels and immune activity in male and female midland painted turtles (*Chrysemys picta picta*), during the nesting season. They captured adult painted turtles during the nesting season and quantified baseline physiological stress levels and immune activity. It was predicted that females would exhibit higher physiological stress levels and decreased immune activity compared to males attributable to the energetic demands and stressful conditions that reproduction places on females, but not males, in this species. Contrary to the predictions, it was found that the sexes did not differ in physiological stress levels and that females demonstrated greater immune activity than males during the nesting season. These results agree with a growing body of literature suggesting that immune function in painted turtles is not negatively correlated with physiological stress levels, as is common in other vertebrate taxa. Instead, female turtles may demonstrate enhanced immune activity during the nesting season to counter the increased infection risk they may experience during overland travel to nesting sites.

## HARVESTING OF SNAPPING TURTLES

P. W. Cain et al. [2017, Chelonian Conservation and Biology 16(2):229-235] note that turtles are highly susceptible to the negative effects of commercial harvesting. In October 2007, the Maryland Department of Natural Resources convened a working group to discuss the snapping turtle (*Chelydra serpentina*) fishery in Maryland and to make recommendations considered necessary to maintain a sustainable fishery. Information was collected on population structure and the collecting techniques used by local harvesters in the field. An increase in the minimum legal size limit from 9.5 inches in 2008 to 11 inches in 2009 resulted in more females being protected from harvesting yet significantly decreased catch per unit effort, forcing harvesters to increase collecting effort to maintain catch levels.

# Minutes of the CHS Board Meeting, August 17, 2018

Rich Crowley called the meeting to order at 7:38 P.M. Board members Dan Bavirsha, Lawrence Huddleston and Jessica Wadleigh were absent. Minutes of the June 15 board meeting were read and accepted with changes.

**Officers' Reports**

Treasurer: John Archer presented the financial reports for July. Our account with Meetup.com is being canceled.

Media secretary: Kim Klisiak is working to build new sites for chicagoherp.org, reptilefest.com and jrherpers.com. Mike Dloogatch mentioned that the *Bulletins* from 1999 can now be downloaded from the CHS website.

Membership secretary: Mike Dloogatch read the list of expiring memberships. Due to a glitch, it was not possible to submit dues payments online for a period of about a month in June and July. This situation has now been remedied.

Sergeant-at-arms: Mike Scott reported 32 people in attendance at the July 25 general meeting.

**Committee Reports**

Shows: As we have now secured liability insurance, our schedule of live animal shows will resume.

ReptileFest: Frank Sladek reported that next year's 'Fest will be held April 13–14. Frank has been using Email Chimp to get in touch with past exhibitors and vendors to find out likes and dislikes, and what they would like to see in the future. Frank is open to suggestions on anyone else to invite to participate.

Junior Herpers: Frank Sladek emphasized the need for more team members to work with the kids. The future may hold fewer speakers and more kids running the show. More outings will also be attempted.

Library: Storage space for the library carts has been made available at the Notebaert.

Nominating Committee: Kim Klisiak and Mike Scott will again serve on this committee this year. Jarrett Mosely and Colleen McCarthy will also be on the committee.

Grants: The committee has not yet received an alternative proposal from the grant recipient whose project has been canceled.

**Old Business**

A new liability insurance policy is now in force. The policy specifies no handling of snakes during show hours by the exhibitors or the public. Snakes must be in their enclosures before the start of a show and not removed until after the show has ended. We are still looking for other coverage / may obtain a 2-day policy for 'Fest

Newly redesigned business-card-sized hand-outs that advertise our CHS monthly meetings are now available.

**New Business**

Mike Scott moved to eliminate the $10 lunch stipend given out at the shows. Tom Mikosz seconded, and the motion was unanimously approved.

The meeting adjourned at 10:00 P.M.

*Respectfully submitted by recording secretary Gail Oomens*

---

# News and Announcements

## MIDWEST HERPETOLOGICAL SYMPOSIUM

The Hoosier Herpetological Society will host the Midwest Herpetological Symposium this year, September 28–30, at the La Quinta Inn & Suites, 5120 Victory Drive, Indianapolis, Indiana. Speakers and their topics will be:

- Robert Applegate, "Captive Breeding of Colubrid Snakes with an Emphasis on Kingsnakes"
- Dan Dourson, "Reptiles and Amphibians of Belize"
- Nate Engbrecht, "The State of the Herps: An Update on Indiana Herpetology"
- Dave Fogel, "Captive Husbandry and Behavioral Observations of the Mata Mata (*Chelus fimbriatus*)"
- Yatin Kalki, "Herping Southern India"
- Ethan Kessler, "The History and Current Status of Alligator Snapping Turtles in the Midwest"
- David Mifsud, "Amphibian/Reptile Best Management Practices and Conservation"
- Todd Pierson. "Ecology and Evolution of Appalachian Salamanders"
- Michael Price, "Reptile Diversity of Brewster County Texas" and "Squamate Diversity of the Sierra Madre Oriental in Northern Mexico

The Friday evening icebreaker social will include presentations. Saturday will feature speakers throughout the day, followed by the evening banquet and auction. Sunday will offer a tour of the Indianapolis Zoo. Vendors will offer books and artwork. Live reptiles and amphibians will be on exhibit. And new this year will be the presentation of the Young Herpetologist Award.

Online registration and detailed information can be found on the HHS website: <www.hoosierherpsoc.org>

# Advertisements

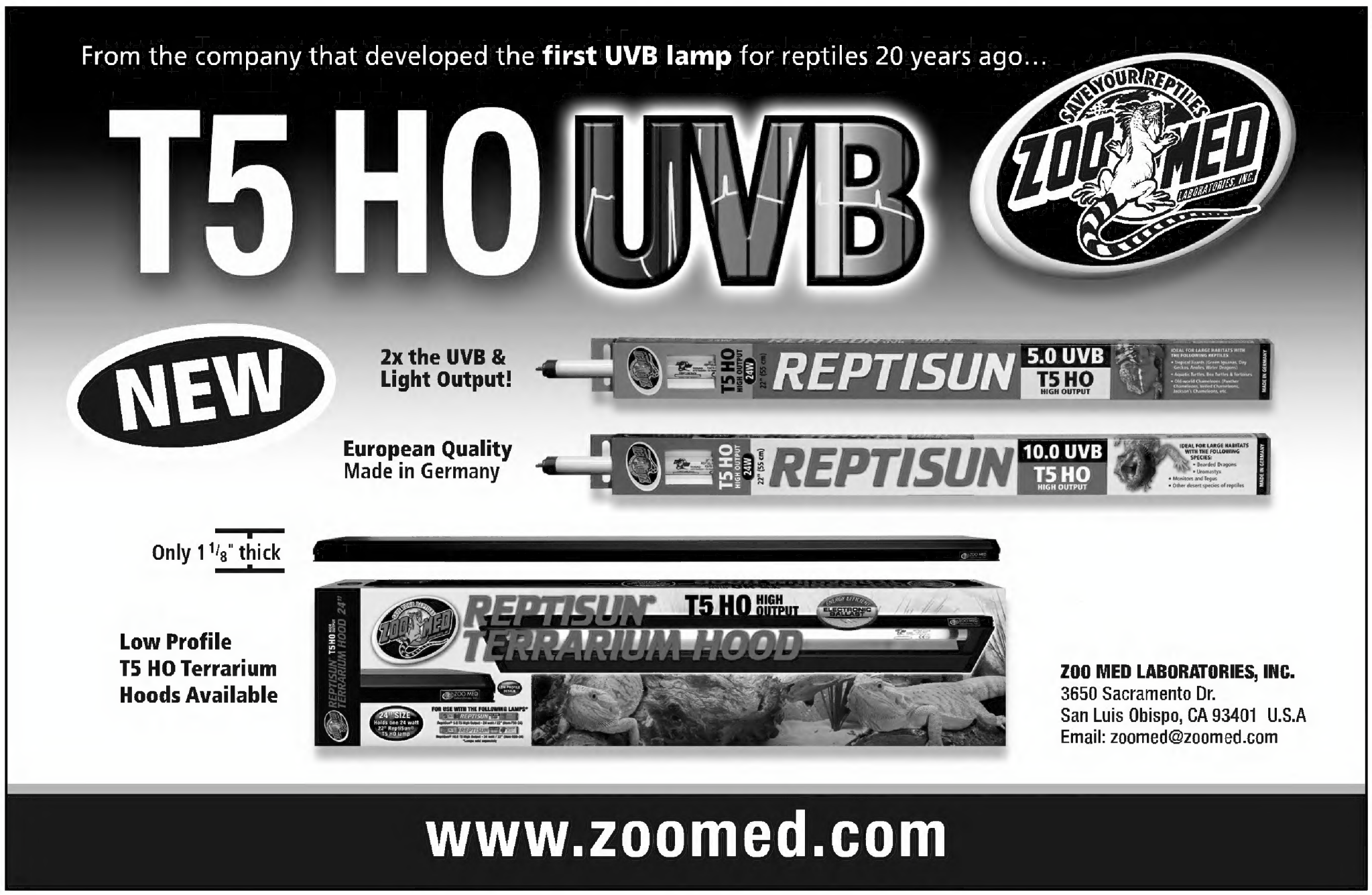
For sale: **highest quality frozen rodents**. I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , $25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), $27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm) , $30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), $35/100 Contact Kelly Haller at 785-234-3358 or by e-mail at kelhal56@hotmail.com

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site http:// hiss-n-things.com and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to mdloogatch@chicagoherp.org.

## NEW CHS MEMBERS THIS MONTH

Dr. Ronald A. Javitch
Kelli Ann Little
Diane and Tom Peters
Asha Westrope Pellot
Frank Ziegler



From the company that developed the first UVB lamp for reptiles 20 years ago...
T5 HO UVB
SAVE YOUR REPTILES
ZOO MED
LABORATORIES, INC.
NEW
2x the UVB & Light Output!
REPTISUN 5.0 UVB T5 HO HIGH OUTPUT
European Quality Made in Germany
REPTISUN 10.0 UVB T5 HO HIGH OUTPUT
Only 1 1/8" thick
REPTISUN T5 HO HIGH OUTPUT TERRARIUM HOOD
Low Profile T5 HO Terrarium Hoods Available
ZOO MED LABORATORIES, INC.
3650 Sacramento Dr.
San Luis Obispo, CA 93401 U.S.A
Email: zoomed@zoomed.com
www.zoomed.com

## UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, September 26, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **George L. Heinrich**, a field biologist and environmental educator specializing in Florida reptiles, will speak about "The Big Turtle Year: Celebrating Wild Turtles across the United States." The United States is the most turtle-rich country (62 species), with many taxa of conservation concern. While species from areas such as Asia, South America and Madagascar often receive the majority of conservation attention, the plight of species within the U.S. quietly goes unnoticed. The goal of The Big Turtle Year initiative was to increase awareness regarding the status of these often overlooked species and to emphasize their rich diversity, natural history and conservation. Throughout 2017, Florida Turtle Conservation Trust researchers visited numerous sites accompanied by other biologists and conservationists in an effort to see as many species as possible during a single year, while examining threats and conservation actions needed.

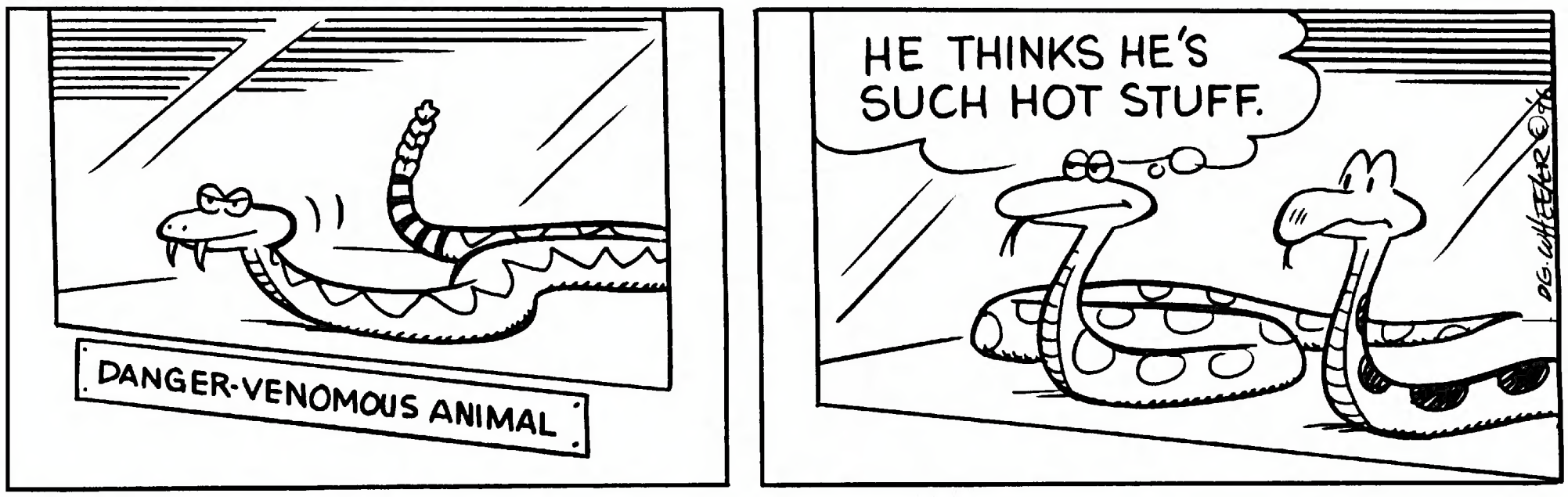
At the October 31 meeting **Roger Carter** of the Hoosier Herpetological Society will speak about "Searching for Hidden Herps." Roger has been using an inspection camera to look for herps in hollow logs, rock crevices and other hard-to-access places.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

### Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to take place on October 19, 2018. The venue is as yet uncertain, so if you wish to attend please email mdloogatch@chicagoherp.org.

THE ADVENTURES OF SPOT



Periodicals Postage
Paid at Chicago IL

# CHICAGO HERPETOLOGICAL SOCIETY

*Affiliated with the Chicago Academy of Sciences*

2430 North Cannon Drive • Chicago, Illinois 60614